NOTIOPHILUS PALUSTRIS (COLEOPTERA: CARABIDAE), A EURASIAN CARABID BEETLE NEW TO NORTH AMERICA[1]

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ABSTRACT: The Eurasian carabid beetle *Notiophilus palustris* is recorded for the first time for North America. Forty-four specimens have been found in Nova Scotia and Prince Edward Island, Canada, in 1967 and 1987. While macropterous forms are rare in Europe, individuals found in North America seem all to be macropterous, suggesting a recent immigration.

The insect collection of the Nova Scotia Museum of Science (Halifax) contains one specimen of the Eurasian carabid beetle *Notiophilus palustris* (Duftschmid, 1812), collected by Ken Neil from Nova Scotia: Halifax Co., Armdale, 1.VII.1967. Forty-three individuals of this species have also been discovered from the following localities: Nova Scotia: Pictou Co.: Merigomish Island, 20.VII.1987 (25 exx.). Prince Edward Island: Kings Co.: Basin Head, 13.VII.1988 (one ex.); Panmure Island Provincial Park, 15.VII.1987 (one ex.); Red Point Provincial Park, 15.VII.1987 (one ex.); Souris Beach Provincial Park, 14.VII.1987 (one ex.). Queens Co.: Lord Selkirk Provincial Park, 14.VII.1987 (one teneral ex.); Wood Island Provincial Park, 13.VII.1987 (13 exx.). This is the first record of this Eurasian carabid for North America.

All specimens have been found on sandy sea beaches, under vegetal debris. According to Lindroth (1985), the species is hygrophilous and usually occurs in rather shady places on humus-rich ground; it is found in deciduous woods among the litter and in mosses as well as in open habitats such as meadows and marshes, with high and dense vegetation. In Europe, it is most common in spring when reproduction takes place, but also in fall when the new adult generation emerges.

Notiophilus palustris has apparently been accidentally introduced into North America, perhaps transported by ship. The species seems to be well established in the Atlantic Provinces of Canada as demonstrated by the large number of individuals found in numerous collecting localities and the presence of a teneral individual which indicates that breeding occurs locally. While macropterous forms are rare in Europe

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(Lindroth, *loco citato*), all specimens examined (at least 20) have fully-developed inner wings; this condition suggests a recent immigration into North America. Moreover, the area has been well surveyed in the past and while the beetle is conspicuous, it has never been recorded. This carabid should spread rapidly in northeastern North America due to its fully-developed, probably functional, wings and its eurytopic characteristics.

The species is characterized as follows: Broad, black with shiny cupreous luster; entire tibiae, base of palpi and four basal segments of antennae pale; anterior diverging frontal furrows; eyes very large; head wider than prothorax; pronotal sides strongly constricted basally and rounded. Second elytral interval just behind the middle, more than three times as wide as third interval; each elytron with two dorsal punctures and two preapical punctures; intervals not reticulated; striae densely and deeply striated, especially behind shoulder. Body length: 5-6.1 mm.

In Lindroth's key (1961) to North American *Notiophilus*, the species will trace to Couplet 8 modified in the following manner:

8. Tibiae black. Elytra with 2. interval hardly broader than the following two together ..... *N. simulator* Fall
- Tibiae yellowish brown. Elytra with 2. interval at least as broad as the three following together 9

9. Second and third elytral striae obliterated before apex. Elytra quite dark or with ill-defined pale apical vitta 9.1
- Second and third elytral striae evident to apex. Elytra always with well defined pale apical vitta. ..... *N. biguttatus* (Fabricius)

9.1 Each elytron with 2 dorsal punctures. Head much wider than prothorax which is strongly constricted basally. 5-6.1 mm. Nova Scotia and Prince Edward Island ..... *N. palustris* (Duftschmid)
- Each elytron with a single dorsal puncture. Head as wide as prothorax which is devoid of basal contriction. Smaller: 3.4-4.7 mm. Eastern United States.... *N. novemstriatus* LeConte

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